Initial Assessment and Management of Trauma

Introduction

- Golden Hour
  - Time to reach operating room (or other definitive treatment)
  - NOT time for transport to ED
  - NOT time in Emergency Department

Introduction

- EMS does NOT have a Golden Hour
- EMS has a Platinum Ten Minutes

Introduction

- Patients in their Golden Hour must:
  - Be recognized quickly
  - Have only immediate life threats managed
  - Be transported to an APPROPRIATE facility

Introduction

- Survival depends on assessment skills
- Good assessment results from
  - An organized approach
  - Clearly defined priorities
  - Understanding available resources

Size-Up

- *Begins with Dispatch info*
- Safety
- Scene
- Situation
- Report your size-up
  - Additional support or resources
  - Critical vs non-critical patient

Size-Up on Approach

- Safety, Scene, Situation
  - How does the scene look?
  - Hazards?
  - How many patients? Where are they?
  - What do the mechanism & kinematics suggest?
  - Special Needs/Resources?
  - Immediate actions required?
- Report your size-up

Size-Up on Approach

- What is your radio size-up of this incident?

Initial Assessment (Primary Survey)

- Find and correct life threats
- Most obvious or dramatic injury usually is NOT what is killing the patient!
- If life-threat is present, CORRECT IT!
- If it can't be corrected
  - Support oxygenation, ventilation, perfusion
  - TRANSPORT!!
- *SICK or NOT SICK?*

Initial Assessment (Primary Survey)

With critical trauma you may never get beyond the primary survey

Initial Assessment (Primary Survey)

- Airway with C-Spine Control
  - You don’t need a C-collar yet
  - Return head to neutral position
  - Stabilize without traction
  - Axially unload spine

Initial Assessment (Primary Survey)

- Airway with C-Spine Control
  - Noisy breathing is obstructed breathing
    - But all obstructed breathing is not noisy
  - Manpower intensive task

Initial Assessment (Primary Survey)

- Airway with C-Spine Control
  - Anticipate airway problems with
    - Decreased level of consciousness
    - Head trauma
    - Facial trauma
    - Neck trauma
    - Upper thorax trauma
    - Severe Burns to any of these areas
  - Open, Clear, Maintain

Initial Assessment (Primary Survey)

- Breathing
  - Is oxygen getting to the blood?
    - Is air moving?
    - Is it moving adequately?
    - Is it moving at an adequate rate?

Initial Assessment (Primary Survey)

- Breathing
  - Look
  - Listen
  - Feel

Initial Assessment (Primary Survey)

- Breathing
  - Oxygenate immediately if:
    - Decreased level of consciousness
    - Shock
    - Severe hemorrhage
    - Chest pain
    - Chest trauma
    - Dyspnea
    - Respiratory distress
    - Multi-system trauma

Initial Assessment (Primary Survey)

- Breathing
  - If you think about giving oxygen, GIVE IT!!

Initial Assessment (Primary Survey)

- Breathing
  - Consider assisted ventilations if:
    - Respirations <12
    - Respirations >24
    - Tidal volume decreased
    - Respiratory effort increased

Initial Assessment (Primary Survey)

- Breathing
  - If you can't tell if ventilations are adequate, they aren't!!

Initial Assessment (Primary Survey)

- Breathing
  - If ventilations or respiration are compromised in the trauma patient, expose, palpate, auscultate the chest.

Initial Assessment (Primary Survey)

- Circulation
  - Is the heart beating?
  - Is there serious external bleeding?
  - Is the patient perfusing?
    - How do we know?

Initial Assessment (Primary Survey)

- Circulation
  - Does patient have radial pulse?
    - Absent radial = systolic BP < 80
  - Does patient have carotid pulse?
    - Absent carotid = systolic BP < 60

Initial Assessment (Primary Survey)

- Circulation
  - No carotid pulse?
    - Extricate
    - CPR
    - MAST
    - Run!!!!
  - Survival rate from cardiac arrest secondary to trauma is very low

Initial Assessment (Primary Survey)

- Circulation
  - Serious external bleeding?
    - Direct pressure (hand, bandage, MAST)
    - Tourniquet as last resort
  - All bleeding stops eventually!

Initial Assessment (Primary Survey)

- Circulation
  - Is patient perfusing?
    - Cool, pale, moist skin = shock UPO
    - Capillary refill > 2 sec = shock UPO
    - Restlessness, anxiety, combativeness = shock UPO
  - If ? internal hemorrhage, QUICKLY expose, palpate abdomen, pelvis, thighs

Initial Assessment (Primary Survey)

- Disability (CNS Function)
  - Level of consciousness = Best brain perfusion sign
  - Use AVPU initially
  - Check pupils
    - The eyes are the window of the CNS

Initial Assessment (Primary Survey)

- Disability (CNS Function)
  - Decreased LOC =
    - Brain injury
    - Hypoxia
    - Hypoglycemia
    - Shock
  - NEVER think drugs, alcohol, or personality first

Initial Assessment (Primary Survey)

- Expose and Examine
  - You can't treat what you don't find!
  - If you don't look, you won't see!
  - Remove ALL clothing from critical patients ASAP
  - Avoid delaying resuscitation while disrobing patient
  - Cover patient with blanket when finished

Initial Assessment (Primary Survey)

A blood pressure or an exact respiratory or pulse rate is NOT necessary to tell that your patient is critical !!!!!

Initial Assessment (Primary Survey)

If the patient looks sick, he's sick!!!

Primary Resuscitation

- Treat as you go!
- Aggressively correct hypoxia and hypovolemia.

Primary Resuscitation

- Immobilize C-spine (manual & rigid collar)
- Keep airway open
- Oxygenate
- Rapidly extricate to long board (SMR)
- Begin assisted ventilation with BVM
- Expose & Protect from exposure
- Apply and consider inflation of PASG
- Consider intubation
- Transport
- Establish IVs enroute
- Reassess and early notification enroute

Primary Resuscitation

Never delay transport of a critical patient to start an IV!!!

Primary Resuscitation

Minimum Time On Scene

Maximum Treatment In Route

Have a PLAN!

Secondary Survey(Detailed/Rapid Trauma)

- History and Physical Exam
- You WILL get here with MOST trauma patients
- Perform ONLY after primary survey is completed and life threats corrected
- Do NOT hold critical patients in field for secondary survey

Secondary Survey(Detailed/Rapid Trauma)

- Physical Exam
  - Stepwise, organized
  - Every patient, same way, every time
  - Superior to inferior; proximal to distal
  - Look--Listen--Feel

Secondary Survey(Detailed/Rapid Trauma)

- Physical Exam
  - Use your stethoscope
  - Listen to patient's chest
  - Most frequently missed areas
    - Back
    - Mouth
    - Neuro exam

Secondary Survey(Detailed/Rapid Trauma)

- Physical Exam
  - Assessment of extremities MUST include:
    - Pulses
    - Skin color
    - Skin temperature
    - Capillary refill
    - Motor function
    - Sensory function

Secondary Survey(Detailed/Rapid Trauma)

- History
  - Chief complaint
    - What the PATIENT says problem is
    - Not necessarily what you see

Secondary Survey(Detailed/Rapid Trauma)

- History
  - Ample history
    - A = Allergies
    - M = Medications
    - P = Past medical history
    - L = Last oral intake
    - E = Events leading up to incident

Definitive Field Care

Performed ONLY on stable patients

Definitive Field Care

- Packaging
  - Bandaging
  - Splinting
- If patient critical, all fractures stabilized simultaneously by securing patient to board

Definitive Field Care

- Transport
  - Stable patients can receive attention for individual injuries before transport
  - Reassess carefully for hidden problems
  - If patient becomes unstable at any time, TRANSPORT
  - Closest APPROPRIATE facility

Definitive Field Care

- Communication
  - Radio report
    - Brief
    - Concise
    - No more than 90 seconds air time
  - Written run report
  - If it isn’t documented, it wasn’t done

Definitive Field Care

- Reevaluation en route
  - Ventilation and perfusion status
  - Vital signs every five minutes
  - Continued management of identified problems
  - Continued reassessment for unidentified problems